

# Preparing Shipments of Biological Substances, Category B

Category B Biological Substances (UN 3373) can be human or animal specimens and include blood (and its components), tissue, fluids, or body parts and are contaminated with infectious material. For example, human blood infected with hepatitis B virus (HBV) is classified as a Category B Biological Substance. The procedures outlined in this guidance document are specific to Category B Biological Substances **only**. If shipped with hazardous materials (i.e., dry ice), please also refer to the appropriate shipping guidance in addition to the requirements outlined below.

If you are not certified in DOT and/or IATA hazardous material shipping, please contact EHSS to verify the package has been prepared in accordance with IATA regulations prior to shipment. Please complete the [Intent to Ship Form](#) and an EHSS staff member will contact you and advise on the next steps for preparing the shipment.

## Shipping Procedures:

### 1. PACKAGING

- a. Must consist of three components (*Preferred packing configuration is shown in Figure 1 below*):
  - PRIMARY: Leak-proof or sift-proof primary receptacle(s) (i.e., conical or Eppendorf tube), if multiple, must be wrapped with absorbent material (liquid or solid) to prevent contact between the tubes, and placed into secondary packaging.
    1. As a best practice, the lid of the primary receptacle should be secured by secondary means (using tape or parafilm).
    2. For liquids, ensure the primary receptacle is not filled entirely (allows for expansion during transport).
    3. For liquids and solids, may not contain more than 1 L or 1 kg of material, respectively.
  - SECONDARY: Leak-proof or sift-proof secondary packaging (i.e., plastic sealable bag).
    1. A biohazard sticker must be affixed to the outside of the secondary packaging (provided by EHSS).
    2. An itemized list of the contents in primary receptacle(s) (e.g., number of samples, type of sample, liquid vs. solid) must be placed between the secondary and outer packaging.
    3. Secure items using cushioning material between the secondary and outer packaging to prevent movement during transport.
  - OUTER: Rigid and strong outer packaging (i.e., cardboard box) with at least one surface having minimum dimensions of 100 mm x 100 mm.
    - ii. The entire package may not contain more than 4 L or 4 kg for liquids and solids, respectively.

### 2. PREPARE PAPERWORK

- a. Choose the courier for the package (UPS, FedEx, etc).

- i. Consult with your budget administrator for the department's preferred vendor.
- b. Choose and complete the correct Air Waybill.**
  - i. There are two different Air Waybills for each courier.
    1. Domestic
    2. International
  - ii. Obtain a pre-printed paper Air Waybill for the designated courier from your department office and complete all sections in ink. *Note: If you have any concerns about filling out the Air Waybill, an EHSS staff member can help.*
- c. INTERNATIONAL SHIPMENTS ONLY**
  - i. **Complete a Commercial Invoice** *This information is used by Custom officials to clear shipments across international borders. (EHSS staff only)*
    1. When the document is finalized, make four (4) copies, and affix three (3) to the outside of the package using a transparent pocket.
    2. Place one (1) signed copy in between the secondary and outer packaging.
  - ii. **Complete a Shipper's Declaration for Dangerous Goods** *This form must be completed and signed by an authorized shipper. (EHSS staff only)*
    1. When the document is finalized, make four (4) copies, and affix three (3) to the outside of the package using a transparent pocket.
    2. It is recommended to place one (1) signed copy in between the secondary and outer packaging.

### 3. MARKING AND LABELING PACKAGE

- a. The outer packaging must be marked/labeled with the following:
  - i. Name, address, telephone number of the shipper & receiver (in addition to the Air Waybill)
  - ii. Responsible person and phone number (may be the shipper)
  - iii. UN 3373 label
  - iv. The proper shipping name should be displayed, "Biological Substance, Category B"
  - v. If the package contains more than 50 mL of liquid, orientation arrows are needed on two opposite sides of the package.
- b. Biological Substance, Category B, UN3373 Labels - Provided by EHSS**
  - i. Contact EHSS for the appropriate label.
    1. Do not modify or edit the label in anyway.
  - ii. Affix to one side of the outer packaging.
    1. Do not adhere the label to the top or bottom of the package.

### 4. PACKAGE DROP-OFF

- a. Hazardous materials shipments will be shipped Monday through Thursday (some exclusions may apply) from 032 Lyman Hall.
- b. EHSS encourages researchers to drop-off their package by 10 am on the day of the shipment to ensure a timely arrival to the destination.

## 5. PACKAGE VERIFICATION

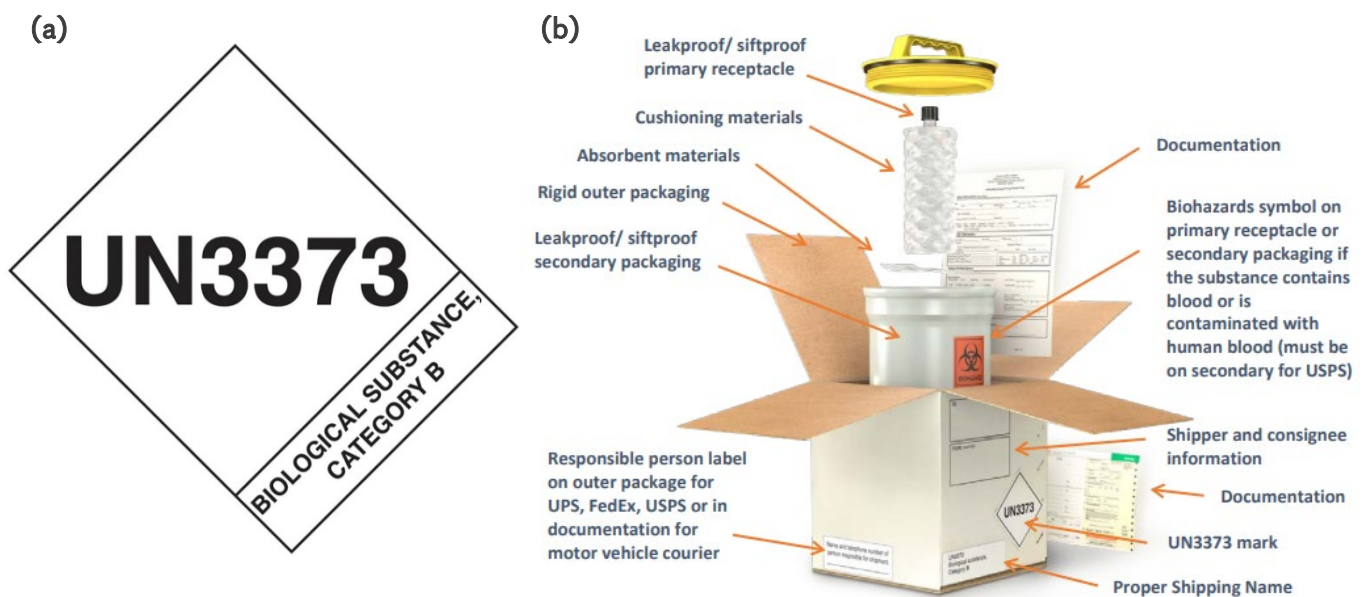
- a. EHSS will verify the packaging, labeling, marking, paperwork, and finalize any shipping papers.
- b. It is strongly advised that the researcher is available for any questions during the time that the package is dropped off to Lyman Hall until the courier picks up the package.

## 6. CONFIRMATION

- a. EHSS will coordinate shipment pick-up with the appropriate courier.
- b. EHSS staff will notify the researcher when the courier has picked up the shipment with the tracking number.

## 7. Documentation

- a. US DOT requires shipping documentation to be retained for a minimum of two years (Air Waybill, Commercial Invoice, and Shipper's Declaration).
- b. EHSS will maintain this documentation when the package is shipped through 032 Lyman Hall.



**Figure 1. (a)** Biological Substance, Category B, UN3373 Label. This label satisfies marking requirements for Biological Substance, Category B when placed on the outer packaging. **(b)** Preferred interior and exterior packaging for Category B Biological Substances.